

POCKET STUDY SKILLS
Sue Robbins

SCIENCE STUDY SKILLS



POCKET STUDY SKILLS

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Oxford Brookes University, UK

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Acknowledgements

Thanks are due to my students who over the past two decades have inspired me in my teaching and challenged me to explain scientific process and conventions of scientific writing. This little book is written for their successors. I have written it as if they were in the room with me and I was explaining each topic to them face to face. I hope, therefore, that they find it easy to read and understand!

Kate Williams is the person who first got me thinking about communicating study skills to science students. We have worked together for 13 years, bouncing ideas off each other and putting together materials to help science students with their assignments. Thank you, Kate, for the hours spent pouring over scripts and cappuccinos!

My colleague Andrew Rendell works with me in Life Sciences. He has helped develop materials for our students and provided me with welcome back-up and support as I have rolled out the delivery of study skills to our science students. Thank you, Andrew.

Finally, I would like to thank Sallie Godwin for her delightful illustrations.

Science is a practical discipline; it's hands-on. Being a scientist is not a spectator sport. It's about *you* finding out: *you* observing, *you* recording, *you* attending to detail, *you* being honest about *your* findings. Then it's about interpreting what *you've* observed. It's about asking questions like, 'How?', 'Why?' and seeking the answers. It's not about making predictions, then looking for evidence to support your ideas.

To do this you must refer to the body of knowledge that we already have, so you're standing on the shoulders of scientists who have gone before you as you reach for the sky. This means that you read textbooks to get the overall picture and learn the language of science, which has differing dialects for the different disciplines. Then, as you become more knowledgeable and specialised in a particular area, you will need to probe deeply into current thinking, searching through journals for academic papers because that is how front-line scientists publish their work.

What types of coursework are you likely to be asked to produce?

These are the kinds of work you will be expected to do:

- ▶ lab and/or field notebooks/diaries
- ▶ lab and/or field reports
- ▶ essays: scientific, academic
- ▶ posters: scientific, academic
- ▶ problem solving: numerical, statistical, data handling.

You will also be required to sit exams where you will need to produce essays, solve problems, handle data and answer multiple choice questions (MCQs) under time constraints.

This guide is designed (i) to help you understand your lecturers' expectations of you as a science student and (ii) to provide you with step-by-step guidance as you study and prepare work for assessment. I hope that you will be excited by the discoveries you make as you study science and that this little book will help and encourage you to become fully involved and get the most out of your degree.